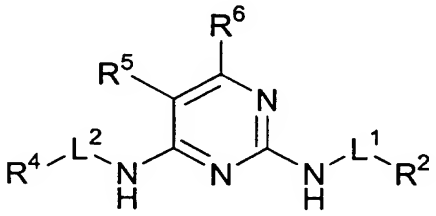
What is Claimed Is:

1. A method of treating or preventing an autoimmune disease and/or one or more symptoms associated therewith, comprising the step of administering to a subject suffering from an autoimmune disease or at risk of developing an autoimmune disease an effective amount of a 2,4-pyrimidinediamine compound according to structural formula (I):



and salts, hydrates, solvates and N-oxides thereof, wherein:

L^1 and L^2 are each, independently of one another, selected from the group consisting of a direct bond and a linker;

R^2 is selected from the group consisting of (C1-C6) alkyl optionally substituted with one or more of the same or different R^8 groups, (C3-C8) cycloalkyl optionally substituted with one or more of the same or different R^8 groups, cyclohexyl optionally substituted with one or more of the same or different R^8 groups, 3-8 membered cycloheteroalkyl optionally substituted with one or more of the same or different R^8 groups, (C5-C15) aryl optionally substituted with one or more of the same or different R^8 groups, phenyl optionally substituted with one or more of the same or different R^8 groups and 5-15 membered heteroaryl optionally substituted with one or more of the same or different R^8 groups;

R^4 is selected from the group consisting of hydrogen, (C1-C6) alkyl optionally substituted with one or more of the same or different R^8 groups, (C3-C8) cycloalkyl optionally substituted with one or more of the same or different R^8 groups, cyclohexyl optionally substituted with one or more of the same or different R^8 groups, 3-8 membered cycloheteroalkyl optionally substituted with one or more of the same or different R^8 groups, (C5-C15) aryl optionally substituted with one or more of the same or different R^8 groups, phenyl optionally substituted with one or more of the same or different R^8 groups and 5-15

membered heteroaryl optionally substituted with one or more of the same or different R^8 groups;

R^5 is selected from the group consisting of R^6, (C1-C6) alkyl optionally substituted with one or more of the same or different R^8 groups, (C1-C4) alkanyl optionally substituted with one or more of the same or different R^8 groups, (C2-C4) alkenyl optionally substituted with one or more of the same or different R^8 groups and (C2-C4) alkynyl optionally substituted with one or more of the same or different R^8 groups;

each R^6 is independently selected from the group consisting of hydrogen, an electronegative group, $-OR^d$, $-SR^d$, (C1-C3) haloalkyloxy, (C1-C3) perhaloalkyloxy, $-NR^cR^c$, halogen, (C1-C3) haloalkyl, (C1-C3) perhaloalkyl, $-CF_3$, $-CH_2CF_3$, $-CF_2CF_3$, -CN, -NC, -OCN, -SCN, -NO, $-NO_2$, $-N_3$, $-S(O)R^d$, $-S(O)_2R^d$, $-S(O)_2OR^d$, $-S(O)NR^cR^c$; $-S(O)_2NR^cR^c$, $-OS(O)R^d$, $-OS(O)_2R^d$, $-OS(O)_2OR^d$, $-OS(O)NR^cR^c$, $-OS(O)_2NR^cR^c$, $-C(O)R^d$, $-C(O)OR^d$, $-C(O)NR^cR^c$, $-C(NH)NR^cR^c$, $-OC(O)R^d$, $-SC(O)R^d$, $-OC(O)OR^d$, $-SC(O)OR^d$, $-OC(O)NR^cR^c$, $-SC(O)NR^cR^c$, $-OC(NH)NR^cR^c$, $-SC(NH)NR^cR^c$, $-[NHC(O)]_nR^d$, $-[NHC(O)]_nOR^d$, $-[NHC(O)]_nNR^cR^c$ and $-[NHC(NH)]_nNR^cR^c$, (C5-C10) aryl optionally substituted with one or more of the same or different R^8 groups, phenyl optionally substituted with one or more of the same or different R^8 groups, (C6-C16) arylalkyl optionally substituted with one or more of the same or different R^8 groups, 5-10 membered heteroaryl optionally substituted with one or more of the same or different R^8 groups and 6-16 membered heteroarylalkyl optionally substituted with one or more of the same or different R^8 groups;

R^8 is selected from the group consisting of R^a, R^b, R^a substituted with one or more of the same or different R^a or R^b, $-OR^a$ substituted with one or more of the same or different R^a or R^b, $-B(OR^a)_2$, $-B(NR^cR^c)_2$, $-(CH_2)_m-R^b$, $-(CHR^a)_m-R^b$, $-O-(CH_2)_m-R^b$, $-S-(CH_2)_m-R^b$, $-O-CHR^aR^b$, $-O-CR^a(R^b)_2$, $-O-(CHR^a)_m-R^b$, $-O-(CH_2)_m-CH[(CH_2)_mR^b]R^b$, $-S-(CHR^a)_m-R^b$, $-C(O)NH-(CH_2)_m-R^b$, $-C(O)NH-(CHR^a)_m-R^b$, $-O-(CH_2)_m-C(O)NH-(CH_2)_m-R^b$, $-S-(CH_2)_m-C(O)NH-(CH_2)_m-R^b$, $-O-(CHR^a)_m-C(O)NH-(CHR^a)_m-R^b$, $-S-(CHR^a)_m-C(O)NH-(CHR^a)_m-R^b$, $-NH-(CH_2)_m-R^b$, $-NH-(CHR^a)_m-R^b$, $-NH[(CH_2)_mR^b]$, $-N[(CH_2)_mR^b]_2$, $-NH-C(O)-NH-(CH_2)_m-R^b$, $-NH-C(O)-(CH_2)_m-CHR^bR^b$ and $-NH-(CH_2)_m-C(O)-NH-(CH_2)_m-R^b$;

each R^a is independently selected from the group consisting of hydrogen, (C1-C6) alkyl, (C3-C8) cycloalkyl, cyclohexyl, (C4-C11) cycloalkylalkyl, (C5-C10) aryl, phenyl, (C6-C16)

arylalkyl, benzyl, 2-6 membered heteroalkyl, 3-8 membered cycloheteroalkyl, morpholinyl, piperazinyl, homopiperazinyl, piperidinyl, 4-11 membered cycloheteroalkylalkyl, 5-10 membered heteroaryl and 6-16 membered heteroarylalkyl;

each R^b is a suitable group independently selected from the group consisting of =O, $-OR^d$, (C1-C3) haloalkyloxy, =S, $-SR^d$, $=NR^d$, $=NOR^d$, $-NR^cR^c$, halogen, $-CF_3$, -CN, -NC, -OCN, -SCN, -NO, $-NO_2$, $=N_2$, $-N_3$, $-S(O)R^d$, $-S(O)_2R^d$, $-S(O)_2OR^d$, $-S(O)NR^cR^c$, $-S(O)_2NR^cR^c$, $-OS(O)R^d$, $-OS(O)_2R^d$, $-OS(O)_2OR^d$, $-OS(O)_2NR^cR^c$, $-C(O)R^d$, $-C(O)OR^d$, $-C(O)NR^cR^c$, $-C(NH)NR^cR^c$, $-C(NR^a)NR^cR^c$, $-C(NOH)R^a$, $-C(NOH)NR^cR^c$, $-OC(O)R^d$, $-OC(O)OR^d$, $-OC(O)NR^cR^c$, $-OC(NH)NR^cR^c$, $-OC(NR^a)NR^cR^c$, $-[NHC(O)]_nR^d$, $-[NR^aC(O)]_nR^d$, $-[NHC(O)]_nOR^d$, $-[NR^aC(O)]_nOR^d$, $-[NHC(O)]_nNR^cR^c$, $-[NR^aC(O)]_nNR^cR^c$, $-[NHC(NH)]_nNR^cR^c$ and $-[NR^aC(NR^a)]_nNR^cR^c$;

each R^c is independently a protecting group or R^a, or, alternatively, each R^c is taken together with the nitrogen atom to which it is bonded to form a 5 to 8-membered cycloheteroalkyl or heteroaryl which may optionally include one or more of the same or different additional heteroatoms and which may optionally be substituted with one or more of the same or different R^a or suitable R^b groups;

each R^d is independently an R^a;

each *m* is independently an integer from 1 to 3; and

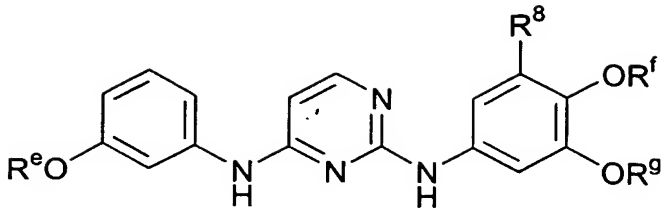
each *n* is independently an integer from 0 to 3, with the provisos that:

(1) when L^1 is a direct bond and R^6 is hydrogen, then R^2 is not 3,4,5-tri (C1-C6) alkoxyphenyl;

(2) when L^1 and L^2 are each a direct bond, R^2 is a substituted phenyl and R^6 is hydrogen, then R^5 is other than cyano or –C(O)NHR, where R is hydrogen or (C1-C6) alkyl;

(3) when L^1 and L^2 are each a direct bond and R^2 and R^4 are each independently a substituted or unsubstituted pyrrole or indole, then the R^2 and R^4 are attached to the remainder of the molecule *via* a ring carbon atom; and

(4) the compound is not a compound according to the formula:



wherein: R^e is (C1-C6) alkyl; R^f and R^g are each, independently of one another, a straight-chain or branched (C1-C6) alkyl which is optionally substituted with one or more of the same or different R^8 groups; and R^8 is as defined above.

2. The method of Claim 1 in which L^1 and L^2 are each, independently of one another, selected from the group consisting of a direct bond, (C1-C3) alkyldiyl optionally substituted with one or more of the same or different R^9 groups and 1-3 membered heteroalkyldiyl optionally substituted with one or more of the same or different R^9 groups, wherein:

R^9 is selected from the group consisting of (C1-C3) alkyl, $-OR^a$, $-C(O)OR^a$, (C5-C10) aryl optionally substituted with one or more of the same or different halogens, phenyl optionally substituted with one or more of the same or different halogens, 5-10 membered heteroaryl optionally substituted with one or more of the same or different halogens and 6 membered heteroaryl optionally substituted with one or more of the same or different halogens; and

R^a is as defined in Claim 1.

3. The method of Claim 2 in which L^1 and L^2 are each, independently of one another, selected from the group consisting of methano, ethano and propano, each of which may be optionally monosubstituted with an R^9 group.

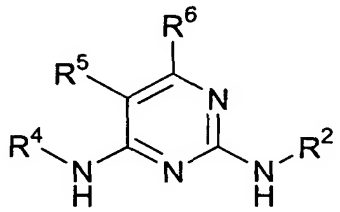
4. The method of Claim 3 in which the R^9 group is selected from the group consisting of $-OR^a$, $-C(O)OR^a$, halophenyl and 4-halophenyl, wherein R^a is as defined in Claim 1.

5. The method of Claim 1 in which R^6 is hydrogen.

6. The method of Claim 1 or 5 in which R^5 is selected from the group consisting of an electronegative group, halo, -F, -CN, -NO_2, -C(O)R^a, -C(O)OR^a, -C(O)CF_3, -C(O)OCF_3, (C1-C3) haloalkyl, (C1-C3) perhaloalkyl (C1-C3) haloalkoxy, (C1-C3) perhaloalkoxy, -OCF_3 and –CF_3.

7. The method of Claim 1 in which at least one of L^1 or L^2 is a direct bond.

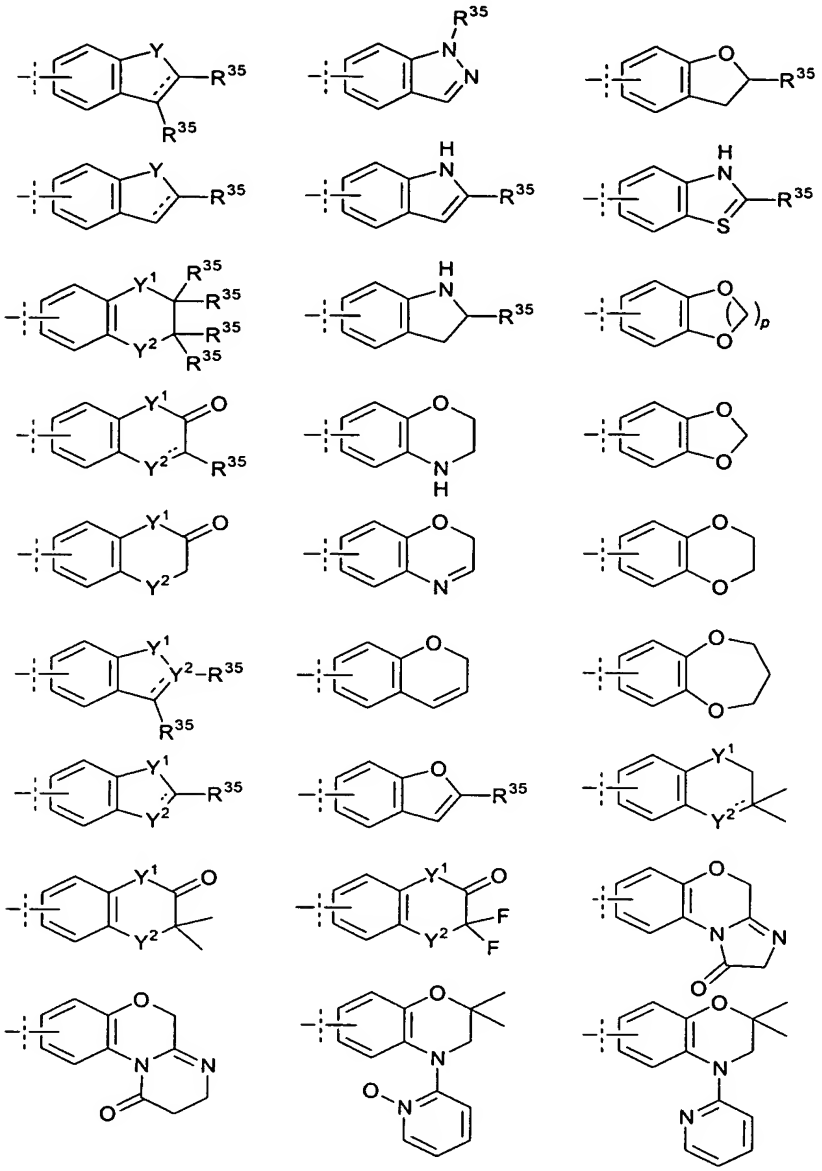
8. The method of Claim 1 in which the 2,4-pyrimidinediamine compound is a compound according to the structure (Ia):

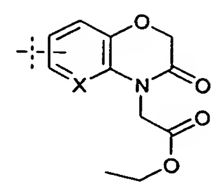
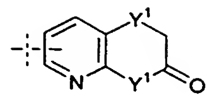
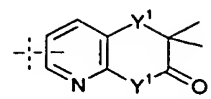
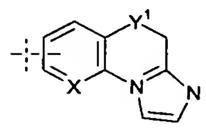
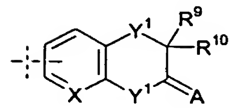
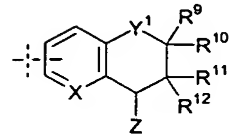
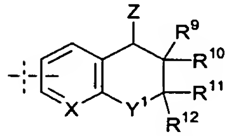
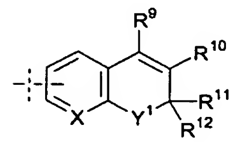
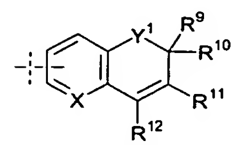
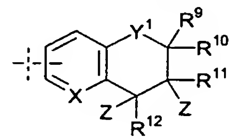
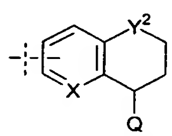
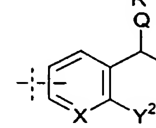
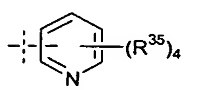
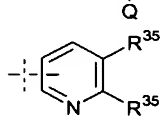
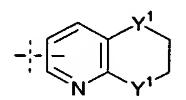
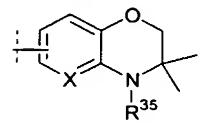
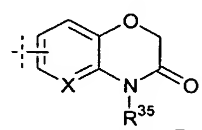
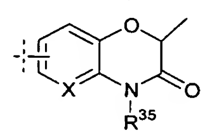
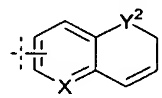
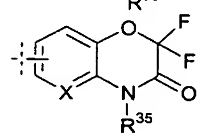
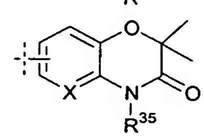
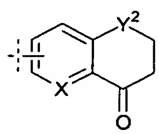


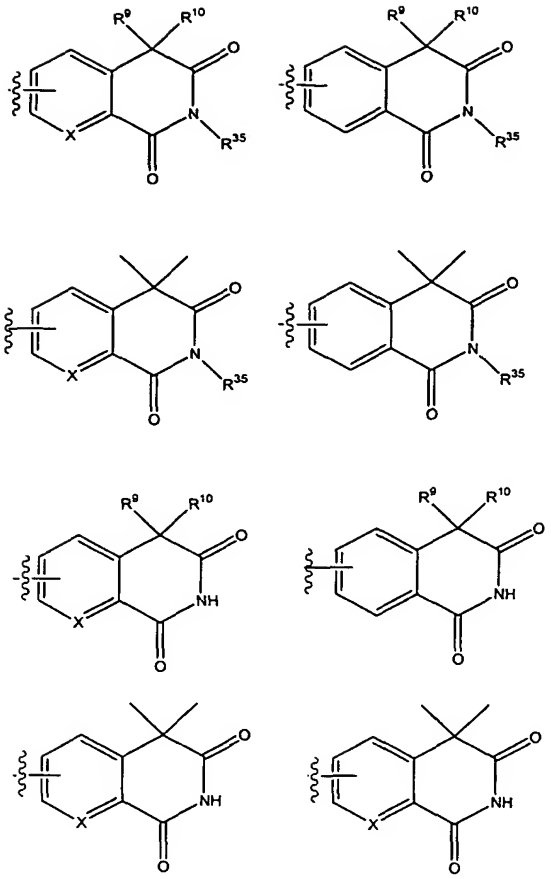
and salts, hydrates and solvates thereof, wherein R^2, R^4, R^5 and R^6 are as defined in Claim 1.

9. The method of Claim 8 in which R^2 is selected from the group consisting of phenyl, naphthyl, 5-10 membered heteroaryl, benzodioxanyl, 1,4-benzodioxan-(5 or 6)-yl, benzodioxolyl, 1,3-benzodioxol-(4 or 5)-yl, benzoxazinyl, 1,4-benzoxazin-(5,6,7 or 8)-yl, benzoxazolyl, 1,3-benzoxazol-(4,5,6 or 7)-yl, benzopyranyl, benzopyran-(5,6,7 or 8)-yl, benzotriazolyl, benzotrazol-(4,5,6 or 7)-yl, 1,4-benzoxazinyl-2-one, 1,4-benzoxazin-(5,6,7 or 8)-yl-2-one, 2H-1,4-benzoxazinyl-3(4H)-one, 2H-1,4-benzoxazin-(5,6,7 or 8)-yl-3(4H)-one, 2H-1,3-benzoxazinyl-2,4(3H)-dione, 2H-1,3-benzoxazin-(5,6,7 or 8)-yl-2,4(3H)-dione, benzoxazolyl-2-one, benzoxazol-(4,5,6 or 7)-yl-2-one, dihydrocoumarinyl, dihydrocoumarin-(5,6,7 or 8)-yl, 1,2-benzopyronyl, 1,2-benzopyron-(5,6,7 or 8)-yl, benzofuranyl, benzofuran-(4,5,6 or 7)-yl, benzo[b]furanyl, benzo[b]furan-(4,5,6 or 7)-yl, indolyl, indol-(4,5,6 or 7)-yl, pyrrolyl and pyrrol-(1 or 2)-yl, each of which may be optionally substituted with one or more of the same or different R^8 groups, where R^8 is as defined in Claim 1.

10. The method of Claim 8 in which R^2 and/or R^4 are each, independently of one another, an optionally substituted heteroaryl selected from the group consisting of:





wherein:

p is an integer from one to three;

each - - - independently represents a single bond or a double bond;

R^{35} is hydrogen or R^8, where R^8 is as previously defined in Claim 1;

X is selected from the group consisting of CH, N and N-O;

each Y is independently selected from the group consisting of O, S and NH;

each Y^1 is independently selected from the group consisting of O, S, SO, SO_2, $SONR^{36}$, NH and NR^{37};

each Y^2 is independently selected from the group consisting of CH, CH_2, O, S, N, NH and NR^{37};

R^{36} is hydrogen or alkyl;

R^{37} is selected from the group consisting of hydrogen and a progroup, preferably hydrogen or a progroup selected from the group consisting of aryl, arylalkyl, heteroaryl, R^a, R^b–CR^aR^b-O-C(O)R^8, -CR^aR^b-O-PO(OR^8)$_2$, -CH_2-O-PO(OR^8)$_2$, -CH_2-PO(OR^8)$_2$, -C(O)-CR^aR^b-N(CH_3)$_2$, -CR^aR^b-O-C(O)-CR^aR^b-N(CH_3)$_2$, -C(O)R^8, -C(O)CF_3 and –C(O)-NR^8-C(O)R^8;

R^{38} is selected from the group consisting of alkyl and aryl;

A is selected from the group consisting of O, NH and NR^{38};

R^9, R^{10}, R^{11} and R^{12} are each, independently of one another, selected from the group consisting of alkyl, alkoxy, halogen, haloalkoxy, aminoalkyl and hydroxyalkyl, or, alternatively, $R^9$and R^{10} and/or R^{11} and R^{12} are taken together form a ketal;

each Z is selected from the group consisting of hydroxyl, alkoxy, aryloxy, ester, carbamate and sulfonyl;

Q is selected from the group consisting of –OH, OR^8, –NR^cR^c, -NHR^{39}-C(O)R^8, -NHR^{39}-C(O)OR^8, -NR^{39}-CHR^{40}-R^b, -NR^{39}-(CH_2)$_m$-R^b and –NR^{39}-C(O)-CHR^{40}-NR^cR^c;

R^{39} and R^{40} are each, independently of one another, selected from the group consisting of hydrogen, alkyl, aryl, alkylaryl;arylalkyl and NHR^8; and

R^a, R^b and R^c are as previously defined in Claim 1.

11. The method of Claim 10 in which R^2 and R^4 are the same.

12. The method of Claim 10 or 11 in which each R^{35} is independently selected from the group consisting of hydrogen, R^d, -NR^cR^c, -(CH_2)$_m$-NR^cR^c, -C(O)NR^cR^c, -(CH_2)$_m$-C(O)NR^cR^c, -C(O)OR^d, -(CH_2)$_m$-C(O)OR^d and –(CH_2)$_m$-OR^d, where *m*, R^c and R^d are as defined in Claim 1.

13. The method of Claim 12 in which each *m* is one.

14. The method of Claim 8 in which R^2 is an optionally substituted heteroaryl which is attached to the remainder of the molecule *via* a ring carbon atom.

15. The method of Claim 8 in which R^4 is an optionally substituted heteroaryl which is attached to the remainder of the molecule *via* a ring carbon atom.

16. The method of Claim 8 in which R^2 and/or R^4 are each, independently of one another, a phenyl optinally substituted with one, two or three R^8 groups, where R^8 is as defined in Claim 1.

17. The method of Claim 16 in which R^2 and R^4 are each the same or different optionally substituted phenyl.

18. The method of Claim 16 or 17 in which the optionally substituted phenyl is *mono* substituted.

19. The method of Claim 18 in which the R^8 substituent is at the *ortho, meta* or *para* position.

20. The method of Claim 19 in which R^8 is selected from the group consisting of (C1-C10) alkyl, (C1-C10) branched alkyl, $-OR^d$, $-O-(CH_2)_m-NR^cR^c$, $-O-C(O)NR^cR^c$, $-O-(CH_2)_m-C(O)NR^cR^c$, $-O-C(O)OR^a$, $-O-(CH_2)_m-C(O)OR^a$, $-O-C(NH)NR^cR^c$, $-O-(CH_2)_m-C(NH)NR^cR^c$, $-NH-(CH_2)_m-NR^cR^c$, $-NH-C(O)NR^cR^c$ and $-NH-(CH_2)_m-C(O)NR^cR^c$, where *m*, R^a, R^c and R^d are as defined in Claim 1.

21. The method of Claim 16 or 17 in which the optionally substituted phenyl is a disubstituted phenyl.

22. The method of Claim 21 in which the R^8 substituents are positioned 2,3-; 2,4-; 2,5-; 2,6-; 3,4-; or 3,5-.

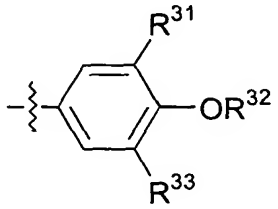
23. The method of Claim 21 in which each R^8 is independently selected from the group consisting of (C1-C10) alkyl, (C1-C10) branched alkyl, $-OR^a$ optionally substituted with one or more of the same or different R^a or R^b groups, $-O-(CH_2)_m-NR^cR^c$, $-O-C(O)NR^cR^c$, $-O-(CH_2)_m-C(O)NR^cR^c$, $-O-C(O)OR^a$, $-O-(CH_2)_m-C(O)OR^a$, $-O-C(NH)NR^cR^c$, $-O-(CH_2)_m-C(NH)NR^cR^c$, $-NH-(CH_2)_m-NR^cR^c$, $-NH-C(O)NR^cR^c$ and $-NH-(CH_2)_m-C(O)NR^cR^c$, where *m*, R^a, R^b and R^c are as defined in Claim 1.

24. The method of Claim 16 or 17 in which the optionally substituted phenyl is trisubstituted.

25. The method of Claim 24 in which the R^8 substituents are positioned 2,3,4; 2,3,5; 2,3,6; 2,4,5; 2,4,6; 2,5,6; or 3,4,5.

26. The method of Claim 25 which each R^8 is independently selected from the group consisting of (C1-C10) alkyl, (C1-C10) branched alkyl, -OR^a optionally substituted with one or more of the same or different R^a or R^b groups, -O-$(CH_2)_m$-NR^cR^c, –O-C(O)NR^cR^c, -O-$(CH_2)_m$-C(O)NR^cR^c, -O-C(O)OR^a, -O-C(NH)NR^cR^c, -O-$(CH_2)_m$-C(O)OR^a, -O-$(CH_2)_m$–C(NH)NR^cR^c, -NH-$(CH_2)_m$-NR^cR^c, -NH-C(O)NR^cR^c and -NH-$(CH_2)_m$-C(O)NR^cR^c, where *m*, R^a, R^b and R^c are as defined in Claim 1.

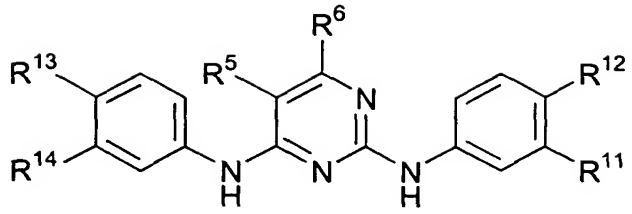
27. The method of Claim 24 in which the trisubstituted phenyl has the formula:



wherein: R^{31} is methyl or (C1-C6) alkyl; R^{32} is hydrogen, methyl or (C1-C6) alkyl; and R^{33} is a halo group.

28. The method of Claim 17 in which R^2 and R^4 are the same.

29. The method of Claim 8 according to structural formula (Ib):

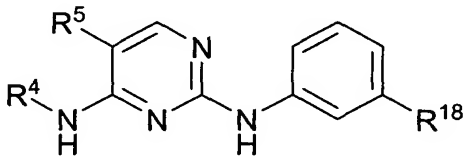


and salts, hydrates, solvates and N-oxides thereof, wherein R^{11}, R^{12}, R^{13} and R^{14} are each, independently of one another, selected from the group consisting of hydrogen, hydroxy, (C1-C6) alkoxy and $-NR^cR^c$; and R^5, R^6 and R^c are as defined in Claim 1.

30. The method of Claim 29 in which R^{11}, R^{12}, R^{13} and R^{14} are each hydrogen.

31. The method of Claim 29 in which R^{12} and R^{13} are each hydrogen.

32. The method of Claim 8 in which the 2,4-pyrimidinediamine compound is a compound according to structural formula (Ic):



and salts, hydrates, solvates and N-oxides thereof, wherein:

R^4 is phenyl optionally substituted with from 1 to 3 of the same or different R^8 groups or 5-14 membered heteroaryl optionally substituted with from 1 to 4 of the same or different R^8 groups;

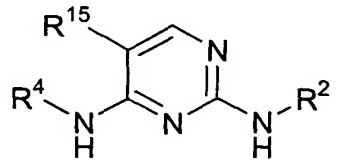
R^5 is an electronegative group, F or CF_3; and

R^{18} is $-O(CH_2)_m$-R^b, where *m* and R^b are as defined in Claim 1.

33. The method of Claim 32 in which R^4 is an optionally substituted heteroaryl.

34. The method of Claim 32 in which R^8 is -O-CH_2-C(O)-$NHCH_3$.

35. A method according to Claim 1 in which the 2,4-pyrimidinediamine compound is a compound according to structural formula (Id):



and salts, hydrates, solvates and N-oxides thereof, wherein:

R^2 and R^4 are as defined in Claim 1; and

R^{15} is an electronegative group,

with the provisos that:

(1) when R^2 is 3,4,5-tri (C1-C6) alkoxyphenyl and R^{15} is halogen, then R^4 is not 3,4,5-tri (C1-C6) alkoxyphenyl; and

(2) when R^2 is a substituted phenyl group, then R^{15} is other than cyano or –C(O)NHR, where R is hydrogen or (C1-C6) alkyl.

36. The method of Claim 37 in which when R^{15} is halogen or nitro, then R^2 is not 3,4,5-tri (C1-C6) alkoxyphenyl.

37. The method of Claim 38 in which R^{15} is selected from the group consisting of –CN, -NC, -NO_2, halogen, -F, (C1-C3) haloalkyl, (C1-C3) perhaloalkyl, (C1-C3) fluoroalkyl, (C1-C3) perfluoroalkyl, –CF_3, (C1-C3) haloalkoxy, (C1-C3) perhaloalkoxy, (C1-C3) fluoroalkoxy, (C1-C3) perfluoroalkoxy and –OCF_3.

38. The method of Claim 39 in which R^{15} is selected from the group consisting of halo, Br, F, -CF_3 and –NO_2.

39. The method of Claim 1 in which the 2,4-pyrimidinediamine compound is selected from the group consisting of compounds R921302, R926891, R940323, R940347 and R921303.

40. The method of any one of Claims 1-39 in which the compound is administered in the form of a pharmaceutical composition comprising the compound and a pharmaceutically acceptable carrier, diluent or excipient.

41. The method of any one of Claims 1-39 which is practiced therapeutically.

42. The method of any one of Claims 1-39 in which the subject is a human.

43. The method of any one of Claims 1-39 in which the autoimmune disease is selected from the group consisting autoimmune diseases that are frequently designated as single organ or single cell-type autoimmune disorders and autoimmune disease that are frequently designated as involving systemic autoimmune disorder.

44. The method of Claim 43 in which the autoimmune disease is selected from the group consisting of Hashimoto's thyroiditis, autoimmune hemolytic anemia, autoimmune atrophic gastritis of pernicious anemia, autoimmune encephalomyelitis, autoimmune orchitis, Goodpasture's disease, autoimmune thrombocytopenia, sympathetic ophthalmia, myasthenia gravis, Graves' disease, primary biliary cirrhosis, chronic aggressive hepatitis, ulcerative colitis and membranous glomerulopathy.

45. The method of Claim 43 in which the autoimmune disease is selected from the group consisting of systemic lupus erythematosis, rheumatoid arthritis, Sjogren's syndrome, Reiter's syndrome, polymyositis-dermatomyositis, systemic sclerosis, polyarteritis nodosa, multiple sclerosis and bullous pemphigoid.

46. The method of Claim 45 in which the autoimmune disease is systemic lupus erythematosis.

47. The method of Claim 45 in which the autoimmune disease is rheumatoid arthritis.

48. The method of Claim 45 in which the autoimmune disease is multiple sclerosis.